AMENDMENT TO THE CLAIMS

1. (cancelled)

2. (currently amended) ~~The method of Claim 1,~~ A method of imaging a biological sample with a microscopic imaging system, comprising the following steps:

        (a) imaging the sample to produce a plurality of image-forming signals corresponding to a plurality of pixels on an image of the of image-forming features in said image, wherein said measure is a statistically significant indicator of pathology in portions of said image; and

        (c) assigning a visually detectable marker to each of said portions of the image corresponding to image-forming signals that produced said measure;

        wherein said image-forming signal is optical density.

3. (original) The method of Claim 2, further including the step of combining said marker with the image to produce an information-enriched image.

4. (original) The method of Claim 2, wherein said marker is color.

5. (original) The method of Claim 3, wherein said marker is color.

6. (original) The method of Claim 2, wherein said measure is a statistically significant combination of said optical-density features.

7. (original) The method of Claim 6, wherein said marker is color.

8. (original) The method of Claim 2, wherein said portions of the image are cell nuclei.

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9. (original) The method of Claim 2, wherein said microscopic imaging system comprises a plurality of individual miniaturized microscopes in an array microscope.

10. (original) An information-enriched image produced by the method of Claim 2.

11. (original) An information-enriched image produced by the method of Claim 9.

12. (cancelled)

13. (currently amended) ~~The apparatus of Claim 12,~~ Apparatus for imaging a biological sample with a microscopic imaging system, comprising the following steps:

  a light optical microscope;

  means for imaging the sample to produce a plurality of image-forming signals corresponding to a plurality of pixels on an image of the sample;

  means for analyzing said plurality of image-forming signals to produce a measure of image-forming features in said image, wherein said measure is a statistically significant indicator of pathology in portions of said image; and

  means for assigning a visually detectable marker to each of said portions of the image corresponding to image-forming signals that produced said measure;

  wherein said image-forming signal is optical density.

14. (original) The apparatus of Claim 13, further including means for combining said marker with the image to produce an information-enriched image.

15. (original) The apparatus of Claim 13, wherein said marker is color.

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16. (original) The apparatus of Claim 14, wherein said marker is color.

17. (original) The apparatus of Claim 13, wherein said measure is a statistically significant combination of said optical-density features.

18. (original) The apparatus of Claim 17, wherein said marker is color.

19. (original) The apparatus of Claim 13, wherein said portions of the image are cell nuclei.

20. (original) The apparatus of Claim 13, wherein said microscopic imaging system comprises a plurality of individual miniaturized microscopes in an array microscope.

21. (original) An information-enriched image produced by the apparatus of Claim 13.

22. (original) An information-enriched image produced by the apparatus of Claim 20.

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